IM
INTEGRATED MANUFACTURING
SYSTEMS INTEGRATORS PUT IT ALL TOGETHER

The systems approach to manufacturing problem-solving has not only created a whole new profession, it has also given industry a way to truly phenomenal leaps in productivity. Systems integrators do this by being students and masters of complexity. Their task is to integrate — put it all together.

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The task of management, however, is not to abdicate technological responsibility to the integrators so much as to ensure appropriate delegation. In other words, the trick is to pick the right systems integrator.

"Whether you're a large or small manufacturer, continuous or discrete, you can gain a distinct competitive advantage and achieve world-class status by working with the right systems integrator," advises S.J. Hyduk, division vice president of EDS. "While more and more manufacturers recognize the strategic link between the integration of information and business success, few know specifically what characterizes a great systems integrator.

"Once you understand the importance of systems integration, you'll realize that integrators are more than consultants, vendors or suppliers. The truly valuable ones have both the capability and the desire to function as technology partners. These integrators are in it for the long haul, providing training, day-to-day support, and systems enhancements that will help you maintain a competitive edge — a competitive edge that will help you achieve world-class status in cost, product quality and speed to market," the EDS executive adds.

William T. Rucker, vice president and general manager of Lockwood Greene Systems Corp., agrees. "Without question, the most important consideration in selecting a systems integrator is 'fit.' It's like buying shoes: If they fit, they become a part of you. If they don't, you cast them aside and regret your investment in them.

"First," Rucker explains, "there must be a technology fit. Integrating a computerized information and control system in a chemical processing facility, for example, is very different from providing systems integration for a plant-wide security and communications system. Before you choose a systems integrator, find out what the firm brings to your project, both in similar experience and in technological expertise. The higher the technology fit, the lower the risk to both parties.

"Second, there must be a communications fit — that is, a willingness on your part and on the part of the systems integrator to communicate openly about expectations, performance, schedule requirements and plans for future opportunities. In short, the integrator should be willing to become partners in your project's success," Rucker adds.

"In order for you to establish this type of relationship, there must also be a personality fit. After all, an integration project will take months, if not years, to complete. Thus, there is a lot to be said for liking your counterpart.

"Finally, you should select a systems integrator with the same expectations about quality as you have. The level of quality you require in your own organization should not be difficult for your systems integrator to achieve. When in doubt, ask about your integrator's quality program. If you don't get a satisfactory answer, look elsewhere.

"The requirements should, of course, go hand in hand with other, more traditional selection criteria. Your systems integrator should have a solid reputation within your industry and the ability to staff your project with top-notch professionals. Likewise, the integrator *should not* have a bias toward any particular hardware or software products. Simply speaking, an integrator is not a vendor of equipment.

"In fact, a good systems integrator serves as an extension of your organization, looking out for your best interest in meeting the overall objectives and expectations of your project," Rucker concludes.

So, what is this new profession? How is it defined? Sometimes it seems that every company in the country is claiming the title of systems integrator.

"In our view, systems integration is connecting production equipment, material handling systems, data collection tools, networks, software and computer hardware into a unified system that allows the manufacturer to have better control of his operations," says Gregory A. Miller, president, Symix Computer Systems Inc. of Columbus, Ohio.

What about a mid-sized manufacturing company?

"Because the mid-sized manufacturer can't afford the time or cost of complex, custom solutions, we have focused our efforts on developing integration toolkits. These toolkits consist of products that simplify the integration process, such as good on-line file conversion utilities and the best communications packages available," says Miller.

"The strategy is to use the toolkits to integrate a range of applications, including electronic data interchange [EDI], computer-aided design [CAD], cell control and statistical process control.

"For example, our clients told us about their need to fully implement electronic data interchange. In response, we developed a flexible EDI toolkit that enables our clients' customers to transmit releases and new purchase orders electronically to the clients' business system. The resulting benefits to the manufacturer are reduced lead times and the ability to operate more efficiently," Symix's Miller explains.

Choosing a firm to handle a systems integration project requires careful planning and consideration of a variety of critical issues.

"First, hire for industry experience," advises Kenneth M. Arnold, chairman, Datalogix International, Inc. "Ask prospective vendors about their experience in your industry. Try to find an integrator who is well versed in the business issues that you are trying to address. There are firms that specialize in each of the important 'verticals' and bring valuable experience to the table. This will save you time and money, and increase your chances for success. The vendor should also be in a firm that is targeted at projects of about the same general dollar size as your project.

"Every systems integrator has a preferred deal size. If your project falls below this range, you may not get the 'top of mind' attention needed for suc-cess. An additional consideration with respect to the vendor's size is that the vendor must be able to provide the re-quired resources without having to hire new personnel. Your project should not be such a large portion of the integra-tor's business that it will tie up the en-tire company so that if they acquired another project of equal size, you would end up with all new people," Arnold says.

"You will also want to avoid firms with a conflict of interest. Ask your prospective vendors to tell you in writing whether they have an equity interest in the product that they will be supplying or recommending. Ask them to disclose any sales fees that they receive from other vendors for products that you buy on their recommendation. Then, nego-tiate payments based upon success. A substantial portion of the fees that you pay to your integrator should be tied directly to realization of the project's goals. If you pay on any other basis, your vendor will have different objectives than you.

"After the field has been narrowed to one or two firms, it is essential that you interview the project manager. Be sure that you understand who will actually be managing the project on a daily basis. Top project managers are the rarest and most valued people in the integration business and your choice of a project manager will affect the success of the project in a big way," says Arnold.

"Carefully review the proposed work plan for a couple of key issues. One, that the work plan fully integrates all the subcontractors in a way that gives you a feel for the detail of the project, and, two, that the process is laid out in enough detail for you to feel comfortable that the integrator has a clear under-standing of all the steps.

"Be sure the integrator has experience working with the subcontractors, and meet them also. Finally, check references. Be thorough and talk with several people at each reference account provided. Try to visit one or two customer sites. Expect these references to be in your industry if the proposed integrator claims to have industry experience," Arnold advises.